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Attorney Docket Number: 12347

10/019182  
JC10 Rec'd PGI/PTO 26 DEC 2001 PATENTS

**TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)**

**International Application Number:** PCT/DE00/01994

**International Filing Date:** 06/26/00

**Priority Date Claimed:** 06/26/99

**Title of Invention:** OPTICAL DEVICE

**Applicant(s) for DO/EO/US:** DUFEK, Otto K.

**Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items under 35 U.S.C. 371:**

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This express request to immediately begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(I).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19<sup>th</sup> month from the earliest claimed priority date.
5. ☒ A copy of the international Application as filed (35 U.S.C. 371(c)(2)):
  - a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☐ has been transmitted by the International Bureau
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ A translation of the International Application into English
7. ☐ Amendments to the claims of the International Application under PCT Article 19:
  - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☐ have been transmitted by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has **NOT** expired.
  - d. ☐ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19(35 U.S.C. 371(c)(3))
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)):
  - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☐ has been transmitted by the International Bureau.
  - c. ☒ will follow.
10. ☐ A translation of the Annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).
11. ☒ Copy of the:
  - a. ☒ International Preliminary Examination Report.
  - b. ☒ International Search Report
12. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98
13. ☐ An Assignment document for recording with a separate cover sheet in compliance with 37 CFR 3.28 and 3.31:
  - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☐ has been transmitted by the International Bureau.
  - c. ☐ will follow.
14. ☒ A **FIRST** preliminary amendment.
15. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
16. ☐ A substitute specification.
17. ☐ A change of power of attorney and/or address letter.
18. ☐ Applicant claims Small Entity status

19. ☐ Other items of information:
20. ☐ Sheets of drawings are enclosed:
21. ☒ The U.S. National Fee (35 U.S.C. 371(c)(1)) and other fees as follows:

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531 Rec'd PCT/PTC 26 DEC 2001

NATIONAL FEE (37 CFR 1.492):					TOTAL
<input type="checkbox"/>	Search Report has been prepared by the EPO or JPO (37CFR 1.492 (a)(5))				\$890
<input type="checkbox"/>	International Preliminary Examination fee paid to USPTO (37 CFR 1.492(a)(1))				\$710
<input type="checkbox"/>	No International Preliminary examination fee paid to USPTO but international search fee paid to USPTO (37 CFR 1.492(a)(2))				\$740
<input checked="" type="checkbox"/>	Neither International Preliminary examination fee nor International Search fee (37CFR 1.492(a)(3)) paid to USPTO				\$1,040
<input type="checkbox"/>	International Preliminary Examination fee paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4)(37 CFR 1.492 (a)(4))				\$100
<input type="checkbox"/>	Surcharge for furnishing the oath of declaration later than 20 or 30 months from the earliest claimed priority date (37 CFR 1.492(e))				\$130
<input type="checkbox"/>	Processing fee for furnishing the English translation later than the 20 or 30 months from the earliest claimed priority date (37 CFR 1.492(f))				\$130
<input type="checkbox"/>	Assignment Recordal Sheet (37 CFR 1.21(L))				\$40
	Number of Claims Filed	Number of Claims Allowed	Number of Extra Claims	Rate per Extra Claim	
Total Number of Claims Filed	8	0	0	\$18	\$0
Number of Independent Claims Filed	1	0	0	\$80	\$0
		Yes	No	Rate per Application	
Number of Multiple Dependent Claims Filed	0			\$270	\$0
Total Fees Enclosed for Large Entity					\$1,040
Total Fees Enclosed for Small Entity (1/2 of Large Entity)					\$520

- a. ☒ A check in the amount of \$ 1040 to cover the fee is enclosed.
- b. ☐ Please charge my deposit account \$ 0. to cover the above fees. A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, including request for extension and payment of extension fees due, when this is not explicitly requested by applicants, with a view toward avoidance of abandonment. To Deposit account No. 04-2219, referencing our docket # 12403. Any overpayment should be credited to this account.

Please direct all communication in connection with this application to the undersigned at:

ORUM & ROTH  
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Registration Number 17656

CERTIFICATION UNDER 37 CFR 1.10

I hereby certify that this transmittal letter and the documents referred to as enclosed therein are being deposited with the United States Postal Service on December 26, 2001, in an envelope as "Express Mail Post Office Addressee", mailing label number EV034971384US addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Brenda Campillo  
Name of Person Mailing Paper

Signature of Person Mailing Paper

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Applicant:** DUFEK, Otto K.

**Serial Number:** to be assigned

**PCT Application Number:** PCT/DE00/01994

**Filed:** 06/26/2000

**Title:** OPTICAL DEVICE

**Attorney Docket Number:** 12403

PRELIMINARY AMENDMENT

Hon. Commissioner of  
Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

December 26, 2001

Please amend the newly submitted application described above as follows:

In the Claims:

Please amend the claims as follows:

In claim 3, line 1, please delete --oder 2--

In claim 4, line 1, please delete --einem der vorhergehenden Anspruche dadurch gekennzeichnet-- and insert "Anspruch 1"

In claim 5, line 1, please delete --einem der vorhergehenden Anspruche dadurch gekennzeichnet-- and insert "Anspruch 1"

In claim 6, line 1, please delete --einem der vorhergehenden Anspruche dadurch gekennzeichnet-- and insert "Anspruch 1"

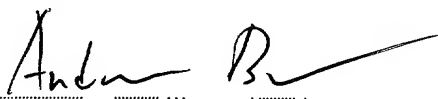
In claim 7, line 1, please delete --einem der vorhergehenden Anspruche dadurch gekennzeichnet-- and insert "Anspruch 1"

In claim 8, line 1, please delete --einem der vorhergehenden Anspruche dadurch gekennzeichnet-- and insert "Anspruch 1"

**REMARKS**

The foregoing amendments are primarily for the purpose of eliminating multiple dependencies, and placing the claims in proper form.

Respectfully submitted,



Andrew D. Babcock  
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10/019,182  
Rec'd PCT/PTO 22 APR 2002

DUFEK, Otto K.: 71364 Winnenden

### Optical Apparatus

The invention is based on an optical apparatus (binoculars, camera and the like) for the optical detection of objects (geographical locations, persons, vehicles, and the like), whose identifying data are stored in satellite-aided transmission systems. This optical apparatus is intended to contain a component for the optical fine focusing on such an object viewed via a target line. Target line is defined here as the axis between apparatus and object, which is defined, of course, with reference to the compass direction into which the apparatus is pointed, but also by how far the apparatus is rotated above or below horizontal. Furthermore, this apparatus is intended to contain a component to detect the distance between apparatus and the object, which may be done with optical or other means, where the display of the distance is to consist of data, such as electronic data, that can be processed further. Furthermore, the apparatus is to contain a measurement unit to detect the angle of incline between global identification lines, such as magnetic identification lines, and the target line. Furthermore, the apparatus is to contain a receiving unit to receive signals from satellites, and it is to contain a computer for data processing, which can process the distance data described above, data regarding the angle of incline, satellite signals as well as the data of the satellite-aided transmission systems or their storage. Then there is also an information display for the targeted display of data regarding the object, where the desired result of the computation is displayed automatically, for example as data from the satellite-aided transmission system, such as is well known in the case of locating, orienting and navigating of persons or vehicles with such satellite-aided transmission systems.

For a known optical apparatus of this type (DE-OS 43 12 310), the objects are detected by the computer using the data of a satellite navigation system and the compass heading and their identification is "verified cognitively". This is achieved by the intersection of two vectors, specifically first the heading vector of the compass and second the location vector of the satellite system. The disadvantage of this apparatus consists of requiring a subsequent check of the information data and the object, because there is no reliable designation.

However, the computer of this invention processes also the distance value, which may vary with fine focus, and its program is designed such that data regarding the currently selected object will appear on the information display after fine focusing. The advantage here is primarily the clean and reliable designation of information data for the object, such as a village, a specific person or a specific vehicle. Thus, such an apparatus can be used in many applications, such as in research or exploration projects, but also in emergencies and last but not least by the military, where errors may have particularly grave results.

In an advantageous embodiment of the invention, the computer works exclusively with electronic inputs.

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In an additional advantageous embodiment of the invention, the display consists of a display unit with an LCD (liquid crystal display) with transparent electrodes on the display surface.

An additional advantageous embodiment of the invention uses a printer as the display to print out the results.

An additional advantageous embodiment of the invention uses an apparatus to process the data into acoustical signals and a loudspeaker as the display.

An additional advantageous embodiment of the invention uses binoculars as the basic apparatus. The viewing area of these binoculars may then include a display such that the viewer learns the identity of the object immediately after focusing on the object.

An additional advantageous embodiment of the invention uses a navigation satellite system for the location determination of the optical apparatus. Such systems are known, specifically to locate, for example, persons and vehicles for navigation within urban areas. In an additional advantageous embodiment of the invention, the measurement unit cooperates with a compass to detect the azimuth angle between the target line and the North-South direction.

An additional advantageous embodiment of the invention uses a height-measuring device to detect the elevation angle between the target line and the horizontal and/or the vertical.

Other advantages and advantageous embodiments of the invention may be derived from the claims.

All of the characteristics shown in the description and the following claims may be essential to the invention by themselves or in any possible combination with each other.

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## Claims

1. Optical apparatus (binoculars, camera and the like) for the optical detection of objects (geographical locations, persons, vehicles, and the like), whose identifying data are stored in satellite-aided transmission systems,
  - with an apparatus for optical fine focusing of such an object viewed along a target line,
  - with an apparatus to detect the distance to the object,
  - with a measuring device to detect the angle of incline from global data lines to the target line,
  - with a receiver to receive satellite signals,
  - with a computer to process data, including distance, angle of incline, satellite signals, and the data of the satellite-aided transmission system, and
  - with a display for the specific display of data relating to the object,characterized by the features that
  - the computer processes also the distance value, which varies with fine focusing, and
  - the identification data for the object in question will appear on the display as an intentional output of the program.
2. Apparatus according to Claim 1, characterized by having the computer work exclusively with electronic inputs.
3. Apparatus according to Claim 1 or 2, characterized by using a navigation satellite system to determine the position.
4. Apparatus according to one of the preceding claims, characterized by having the measurement unit cooperate with a compass to detect the azimuth angle between the target line and the North-South direction.
5. Apparatus according to one of the preceding claims, characterized by having the measurement unit cooperate with a height-measuring device to detect the elevation angle between the target line and the horizontal and/or the vertical.
6. Apparatus according to one of the preceding claims, characterized by having a display that consists of an LCD (liquid crystal display) with transparent electrodes on the display surface.
7. Apparatus according to one of the preceding claims, characterized by using a printer as the display to print out the data.
8. Apparatus according to one of the preceding claims, characterized by using a sound-producing apparatus and a loudspeaker to process the data into audible signals.

10019182 042203

(12) NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES  
PATENTWESENS (PCT) VERÖFFENTLICHTE INTERNATIONALE ANMELDUNG

(19) Weltorganisation für geistiges Eigentum  
Internationales Büro



(43) Internationales Veröffentlichungsdatum  
4. Januar 2001 (04.01.2001)

PCT

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WO 01/01074 A1

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17/00, G01S 5/14

(21) Internationales Aktenzeichen: PCT/DE00/01994

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26. Juni 2000 (26.06.2000)

(25) Einreichungssprache: Deutsch

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(30) Angaben zur Priorität:  
199 29 444.5 26. Juni 1999 (26.06.1999) DE

(71) Anmelder und

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(81) Bestimmungsstaaten (national): AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,

DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,  
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(84) Bestimmungsstaaten (regional): ARIPO-Patent (GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), eura-  
sisches Patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
europäisches Patent (AT, BE, CH, CY, DE, DK, ES, FI,  
FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI-Patent  
(BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE,  
SN, TD, TG).

Veröffentlicht:

- Mit internationalem Recherchenbericht.
- Vor Ablauf der für Änderungen der Ansprüche geltenden  
Frist; Veröffentlichung wird wiederholt, falls Änderungen  
eintreffen.

Zur Erklärung der Zweibuchstaben-Codes, und der anderen  
Abkürzungen wird auf die Erklärungen ("Guidance Notes on  
Codes and Abbreviations") am Anfang jeder regulären Ausgabe  
der PCT-Gazette verwiesen.

(54) Title: OPTICAL DEVICE

(54) Bezeichnung: OPTISCHES GERÄT

(57) Abstract: The invention relates to an optical device, such as a telescope, a camera or the like, which comprises a computer. Said optical device receives data from a satellite navigation system and measures a horizontal or vertical angle of the visible line of sight and the distance from the object in order to indicate the characteristic data of the object after the positioning thereof.

(57) Zusammenfassung: Es wird ein optisches Gerät, wie beispielsweise ein Fernrohr, eine Kamera od. dgl., vorgeschlagen, welches einen Rechner aufweist, mit dem Daten eines Satellitennavigationssystems eine Horizontal- bzw. Vertikal-Winkelmessung der Sichtziellinie und die Objektentfernung erfasst werden, um nach Positionierung des Objekts deren Kenndaten anzuzeigen.

WO 01/01074 A1



PTO  
APR 22 2002  
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#3

PTO/SB/01 (10-01)

Approved for use through 10/31/2002. OMB 0651-0032

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**DECLARATION FOR UTILITY OR  
DESIGN  
PATENT APPLICATION  
(37 CFR 1.63)**

☐ Declaration Submitted with Initial Filing OR ☒ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

Attorney Docket Number

12403

First Named Inventor

DUFEK, Otto, K.

**COMPLETE IF KNOWN**

Application Number

10019182

Filing Date

Art Unit

Examiner Name

As the below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below next to my name.

I believe I am the original and first inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

OPTICAL DEVICE

(Title of the Invention)

the specification of which

☐ is attached hereto

OR

☒ was filed on (MM/DD/YYYY)

12/26/2001

as United States Application Number or PCT International

Application Number 10019182 and was amended on (MM/DD/YYYY) (If applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
PCT/DE00/01994	PCT	06/26/2000	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

(Page 1 of 2)

Duration of Statement: This form is estimated to take 21 minutes to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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## DECLARATION — Utility or Design Patent Application

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Orum & Roth

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Country

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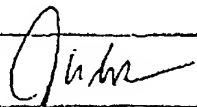
Fax

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR: ☐ A petition has been filed for this unsigned inventor

Given Name Otto K.  
(first and middle (if any))

Family Name Dufek  
or Surname

Inventor's  
Signature 

Date 01/04/02

Winnenden

DEK

Germany

German

Residence: City

State

Country

Citizenship

Mailing Address Hohenzollernweg 18

Winnenden

State

D-71364

Germany

City

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Country

NAME OF SECOND INVENTOR: ☐ A petition has been filed for this unsigned inventor

Given Name  
(first and middle (if any))

Family Name  
or Surname

Inventor's  
Signature

Date

Residence: City

State

Country

Citizenship

Mailing Address

City

State

ZIP

Country

☐ Additional inventors are being named on the ... supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto

[Page 2 of 2]